**REMARKS**

This is in response to the non-final Office action dated December 21, 2001, for which the three-month shortened statutory period is set to expire on March 21, 2002. This response is being made before the expiration date.

By this Amendment, claims 1-28 are pending in the application.

The Title has been amended as required by the Examiner. Support for the new Title is found throughout the specification and claims as originally filed.

The amendments to the specification are generally typographical or grammatical in nature and no new matter is presented thereby.

The amendments to claims 2, 8, and 14 are grammatical in nature and do not constitute new matter.

Support for the amendments to claims 3, 9, and 15, and new claim 22 is found throughout the specification and claims as originally filed, see, for example, the paragraph bridging pages 9 and 10 of the specification.

Support for the amendments to claims 4, 10, and 16, and new claim 23 is found in the specification and claims as originally filed, see, for example, page 11, line 26, through page 12, line 9 of the specification.

Support for the amendments to claims 5, 11, and 17, and new claim 25 is found through out the specification and claims as originally filed, see, for example, page 5, lines 10-11, of the specification.

Support for the amendments to claims 6, 12, and 18, and new claim 26 is found throughout the specification and claims as originally filed, see, for example, page 12, lines 10-20, of the specification.

Support for new claims 19 and 20 is found throughout the specification and claims as originally filed, see, for example, claims 1 and 2, respectively, as originally filed.

Support for new claim 21 is found in the specification as originally filed, see, for example, Figure 6 and the discussion at page 11, lines 20 through page 12, line 9.

Support for new claim 24 is found in the specification as originally filed, see, for example, page 12, line 3.

Support for new claim 27 is found throughout the specification as originally filed, see, for example, original claim 7.

Support for new claim 28 is found throughout the specification and claims as originally filed, see, for example, original claim 13, page 9, line 17, page 10, lines 4-8 and 16, and page 12, lines 10-20.

Accordingly, no new matter is presented by the above amendment.

Objections to Drawings

The Draftsperson's objections to the drawings filed on December 28, 1998, have been noted. Eight sheets of Formal Drawings, including Figures 1-8, were filed on September 20, 1999. ***Applicant would appreciate it if he could be informed in the next communication from the Examiner as to whether the already-filed Formal Drawings have been approved.***

Objection to Title

The Examiner has objected to the title of the invention as lacking description. A more descriptive title is presented by this amendment. Withdrawal of the objection to the title is requested.

Rejection under 35 U.S.C. § 112

Claims 3-6 and 15-18 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite. The terms objected to are "transformation information," "transformation producing function," and "lineage information." Claims 3-6 and 15-18 have been amended for clarity in regard to these terms. It is respectfully sumitted that the above claim amendments overcome the rejection. Withdrawal of the rejection under 35 U.S.C. § 112, second paragraph is respectfully requested.

Rejection under 35 U.S.C. § 102(b)

Claims 1-18 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Consentino et al. (U.S. Patent No. 6,055,515). This rejection is traversed for the following reasons.

Under Section 102(b), a claim is anticipated if the invention was, *inter alia*, "patented . . . more than one year prior to the date of the application for patent in the United States" (emphasis added). 35 U.S.C. § 102(b). The filing date of the

present date is December 28, 1998. The critical one-year date is therefore December 28, 1997. That is, only patents issuing before the December 28, 1997, date are available as prior art under 35 U.S.C. § 102(b). The Consentino et al. patent issued April 25, 2000, well after the critical date. Since the Consentino et al. patent issued after the critical date of the present application, it is unavailable as a prior art reference under 35 U.S.C. § 102(b). For this reason alone, the rejection is in error and the withdrawal of the rejection under 35 U.S.C. § 102(b) is respectfully requested.

Furthermore, even if the the Consentino et al. patent were available as prior art under 35 U.S.C. § 102(b), it is not an anticipatory reference with respect to the pressent claims. It is well-established that to be anticipatory, a reference must disclose each and every claim limitation. Consentino et al. fail to disclose each element of the rejected claims for the following reasons.

Consentino et al. disclose a user interface for a database system which combines a hierarchal structure with the ability to navigate lattice data structures. As Consentino et al. point out, the use of a display tree is familiar to computer users for navigating through tree-like data structures, such as computer directory and file structures. However, the tree structure is inadequate for more complex organizational structures because there is only a single navigation path through the tree to a given object. For example, for an electronic catalog, providing a single navigation path to a given product would be extremely restrictive.

Lattice data structures are also known which provide a multipath organization. However, lattice data structures are difficult to present graphically and difficult to navigate. The system of Consentino et al. provides a multi-path browsing system which uses the familiar tree control. A number of features are added to the tree view to provide this multi-path capability. First, a multiple-inheritance taxonomy is used. This means, for example, that a user who was shopping for sunglasses could navigate to a pair of sunglasses in an online catalog data through many categories, such as beach wear, sportswear, or eye care. See column 6, lines 22-25.

Additionally, since the data is structured as a lattice with multiple paths to different objects, "floating menus" are used to display other "parent" or "ancestor" nodes which lead to a given node. For example, a tree hierarchy is used

to display one possible path. A secondary mouse button or "right click" can then be used to bring up a floating menu which displays the parent nodes or super nodes of the node. If one of the other parent nodes is selected, the tree menu then expands to show the new path, with the node highlighted. See column 7, lines 28-47.

Consentino et al. also use descriptive node labels. For example, a node label in an electronic catalog might be the product number. However, the product number alone would not typically enough to let the user known what the product is. Therefore, the Consentino et al. system adds, in addition to the product number, an attribute value of that product, such as the product name. See column 7, lines 48-58. This provides more useful information since the product number and its name are displayed at the same time. See column 8, lines 5-8; Figure 5, reference numerals 171 and 175.

Claims 1-18 distinguish patentably over Consentino et al. Each of the rejected claims requires a target object which has been derived from a source of data and, further, requires providing information about the source of data from which the target object was derived. On the contrary, the Consentino et al. patent contains no teaching that information about a data source is provided when the target object derived from that data source is selected.

Claims 3, 4, 9, 10, 15, and 16 are further distinguished in that they require providing information about a transformation performed on the source data to derive the target object. Consentino et al. fail to teach providing such transformation information.

Claims 4, 10, and 16 are further distinguished in that in that they require identifying a function used to transform the source data. No teaching of identifying such a transformation producing function is disclosed by Consentino et al.

Claims 5, 6, 11, 12, 17, and 18 are further distinguished in that they require providing lineage information which identifies the source of data used in deriving the target object. No such lineage information is disclosed by Consentino et al.

Claims 6, 12, and 18 are further distinguished in that they require maintaining transformation models which maintain information about the source of data used in deriving the target object.

Because Consentino et al. fail to disclose each and every limitation of the claims, it is respectfully submitted that a prima facie case of lack of novelty has not been established. Therefore, withdrawal of the rejection of claims 1-8 under 35 U.S.C. § 102(b) is respectfully requested.

Double Patenting Rejection

Claims 1, 3, and 13 stand provisionally rejected as being unpatentable over claims 1, 8, 15, and 22 of copending application Serial No. 09/221,042 under the doctrine of obviousness-type double patenting. Claim 22 has been canceled in Serial No. 09/221,042. This rejection is traversed as to the remaining claims 1, 8, and 15 as failing to establish a prima facie case of obviousness-type double patenting for the following reasons.

An obviousness-type double patenting rejection is analogous to obviousness rejection under of 35 U.S.C. 103. In re Braithwaite, 379 F.2d 594, 154 U.S.P.Q. 29 (C.C.P.A. 1967). Therefore, any analysis employed in an obvious-type double patenting rejection must parallel the guidelines for analysis of a 35 U.S.C. 103 obviousness determination. In re Braat, 937 F.2d 589, 19 U.S.P.Q.2d 1289 (Fed. Cir. 1991); In re Longi, 759 F.2d 887, 225 U.S.P.Q. 645 (Fed. Cir. 1985).

Since the analysis employed in an obvious-type double patenting determination parallels the guidelines for a 35 U.S.C. 103 rejection, the factual inquiries set forth in Graham v. John Deere Co., 383 U.S. 1, 148 U.S.P.Q. 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103 are employed when making an obvious-type double patenting analysis. M.P.E.P. § 804. These factual inquiries are summarized as follows:

(A) Determine the scope and content of a patent claim and the prior art relative to a claim in the application at issue;

(B) Determine the differences between the scope and content of the patent claim and the prior art as determined in (A) and the claim in the application at issue;

(C) Determine the level of ordinary skill in the pertinent art; and

(D) Evaluate any objective indicia of nonobviousness.

The conclusion of obvious-type double patenting is made in light of these factual determinations.

Any obvious-type double patenting rejection should make clear:

1. The differences between the inventions defined by the conflicting claims - a claim in the patent compared to a claim in the application; and

2. The reasons why a person of ordinary skill in the art would conclude that the invention defined in the claim in issue is an obvious variation of the invention defined in a claim in the patent.

When considering whether the invention defined in a claim of an application is an obvious variation of the invention defined in the claim of a patent, the disclosure of the patent may not be used as prior art, although the specification may be used to determine the meaning and scope of the claim.

In making the double patenting rejection, the Examiner has taken the position that:

> Although the conflicting claims are not identical, they are not patentably distinct from each other, because both claimed systems comprise substantially the same elements: means / methods / computer program products which synchronize and navigating (*sic*) data stored on a data storage device via a monitoring tool that operates on a selected object from an information tree catalog, to identify/providing (*sic*) changes of metadata / source of that object and update the catalog accordingly.

The Examiner has failed to correctly determine the scope and content of the 09/221,042 application claims 1, 8, and 15 relative to the provisionally rejected claims 1, 3, and 13 in the present application (factual inquiry (A), above).

The body of the Examiner's rejection, reproduced above, contains a number of misstatements regarding the content of the claims.

For example, the Examiner states that both claimed systems recite synchronization of data. The Examiner is incorrect in this regard. The rejected claims 1, 3, and 13 are reproduced below for the Examiner's convenience:

> 1. A method of navigating data stored on a data storage device connected to a computer, comprising the steps of:
> in response to receiving user input, selecting a target object in an information catalog; and
> providing information about a source from which the target object was derived.
>
> 3. The method of claim 1, wherein the step of providing information further comprises providing transformation information, said transformation

information comprising information about a transformation performed on said source to derive said target object.

13. An article of manufacture comprising a program storage medium readable by a computer and embodying one or more instructions executable by the computer to perform method steps for navigating data stored on a data storage device, the method comprising the steps of:

in response to receiving user input, selecting a target object in an information catalog; and

providing information about a source from which the target object was derived.

Clearly, the rejected claims 1, 3, and 13 are directed to navigating data; none of the rejected claims mention synchronizing data. The Examiner's statement to the contrary in making the rejection is, therefore, incorrect. The Examiner has failed to correctly ascertain the scope of the claims and, for this reason alone, a prima facie case of obviousness-type double patenting has not been made out. Withdrawal of the rejection is requested.

The Examiner also states that navigating data and synchronizing data are, to use the Examiner's wording "substantially the same elements." However, the Examiner has provided no evidence to substantiate this assertion that navigating data and synchronizing data are the same or obvious variants. As the Examiner is well aware, Applicants are required to challenge statements by the Examiner that are not supported on the record, and failure to do so will be construed as an admission by Applicant that the statement is true. M.P.E.P. § 2144.03. Therefore, in accordance with Applicants' duty to challenge such unsupported statements, the Examiner is respectfully requested to cite some further evidence that the relational schema includes a key table, as is required by all of the pending claims. If the Examiner is unable to provide such evidence by way of a reference, and is instead relying on facts within her own personal knowledge, Applicant requests that such facts be set forth in an affidavit from the Examiner under 37 C.F.R. § 104(d)(2). Absent substantiation by the Examiner, it is respectfully requested that the double patenting rejection be withdrawn.

Furthermore, the Examiner has failed to correctly ascertain the differences between the 09/221,042 application claims 1, 8, and 15 and the provisionally rejected claims 1, 3, and 13 in the present application (factual inquiry (B), above). Many differences exist between the rejected claims 1, 3, and 13 of the present application and claims 1, 15, and 18 of the 09221,042 application,

especially in view of the many significant differences noted. For example, as discussed above, the present claims recite navigating data whereas the 09/221,042 claims do not. Instead, the 09/221,042 claims recite synchronizing data, whereas the present claims do not.

Another difference is found in that the present claims call for receiving user input, whereas the 09/221,042 claims do not, which instead employs periodic monitoring at specified intervals. Still another difference resides in that the present invention provides data in response to the user input, whereas the 09/221,042 claims recite an updating function which is performed if a change is detected. This is not intended to be an exhaustive listing of all differences, and a direct recitation of the claims pending in the 09/221,042 application is not provided here for reasons related to confidentiality of that application. In any event, because the Examiner has failed to correctly ascertain the differences between the claims of 09/221,042 application and the rejected claims of the present application for at least the reasons given. Therefore, it is respectfully submitted that a prima facie case of obviousness has not been established. For this reason as well, withdrawal of the double patenting rejection is respectfully requested.

Finally, the Examiner has not determined the level of skill in the pertinent art (factual inquiry (C) above). In fact, the Examiner has made only a conclusional statement that the allegedly conflicting claims are not patentably distinct. The Examiner has not provided any reasons why a person of ordinary skill in the art would conclude that the invention defined in the rejected claims is an obvious variation of that defined in the 09/221,042 application. For this reason as well, it is respectfully submitted that the Examiner has not met the burden of establishing a prima facie case of obviousness-type double patenting.

Withdrawal of the double patenting is respectfully requested.

Prior Art Made of Record and Not Relied upon

Applicants will not burden the record with a discussion of the prior art cited by the Examiner, but not relied upon in a rejection.

Conclusion

For the above reasons, Applicants respectfully submit that certain clear and distinct differences as discussed exist between the present invention and the references upon which the rejections in the outstanding Office action rely. These differences are more than sufficient that the present invention as claimed would not have been neither anticipated nor rendered obvious given these references. Rather, the present invention as a whole is distinguishable from, and thereby allowable over, the references of record. Notification to that effect, upon due consideration of the above by the Examiner, is earnestly solicited.

Should there be any outstanding issues requiring discussion that would further the prosecution and allowance of this application, the Examiner is invited to contact Applicants' undersigned representative at the address and phone number indicated below.

Respectfully submitted,
FAY, SHARPE, FAGAN,
MINNICH, & McKEE, LLP

February 11, 2002

Michael E. Hudzinski; Reg. No. 34,185
Scott C. Rand; Reg. No. 40,359
1100 Superior Avenue
Seventh Floor
Cleveland, Ohio 44114-2518
(216) 861-5582

ATTACHMENTS:

1. Marked-Up Version of the Amended Specification Paragraphs, Showing Changes Made; and
2. Marked-Up Version of the Amended Claims, Showing Changes Made

**MARKED-UP VERSION OF THE AMENDED SPECIFICATION PARAGRAPHS, SHOWING CHANGES**
**February 11, 2002**

IN THE SPECIFICATION:

Please delete the title of the invention appearing at page 1, line 1, of the specification and insert the following new title therefore:

-- DATA NAVIGATION SYSTEM AND METHOD EMPLOYING DATA TRANSFORMATION LINEAGE MODEL --

Please delete the paragraph appearing on page 1, lines 11-13, of the specification and replace it with the following new paragraph:

-- Application Serial No. 09/221,042 ~~-/---~~, entitled "~~METADATA~~ METHOD AND SYSTEM FOR SYNCHRONIZATION OF METADATA IN AN INFORMATION CATALOG," filed on same date herewith, by Jing Huang Chu et al., attorney's docket number ST9-98-003;--

Please delete the three paragraphs appearing on page 2, lines 10-14, of the specification and replace them with the following new paragraphs:

-- FIG. 6 is a diagram illustrating a Window containing a tree structure representing objects in an information catalog;

-- FIG. 7 illustrates the transformation models used by the transformation lineage model (TLM) system of the present invention; and

-- FIG. 8 is a flow diagram illustrating the steps performed by the TLM system ~~118~~ to provide transformation and lineage information to a user.--

Please delete the two paragraphs appearing on page 4, lines 3-20, of the specification and replace them with the following new paragraphs:

- - The computer 100 operates under the control of an operating system (OS) 116, such as MVS™, AIX™, OS/2™, WINDOWS NT™, WINDOWS™, UNIX™, etc. The operating system 116 is booted into the memory ~~102~~ 104 of the computer 100 for execution when the computer 100 is powered-on or reset. In turn, the operating system 116 then controls the execution of one or more computer programs 118 by the computer 100. The present invention is generally implemented in these computer programs 118, which execute under the control of the operating system 116 and cause the computer 100 to perform the desired functions as described herein. Alternatively, the present invention may be implemented in the operating system 116 itself.

- - The operating system 116 and computer programs 118 are comprised of instructions which, when read and executed by the computer 100, causes the computer 100 to perform the steps necessary to implement and/or use the present invention. Generally, the operating system 116 and/or computer programs 118 are tangibly embodied in and/or readable from a device, carrier, or media, such as memory ~~102~~ 104, data storage devices 106, and/or a remote device coupled to the computer 100 via the data communications devices 108. Under control of the operating system 116, the computer programs 118 may be loaded from the memory ~~102~~ 104, data storage devices 106, and/or remote devices into the memory ~~102~~ 104 of the computer 100 for use during actual operations.- -

Please delete the entire heading and section entitled "Overview" appearing at page 5, lines 1-11, of the specification and replace it with the following new heading and section, as follows:

-- Overview

-- One embodiment of the present invention provides a Transformation Lineage Model ("TLM") System 118. The TLM System 118 allows an information catalog user to determine the lineage of warehouse data. Warehouse data refers to a large amount of data stored on a data storage device. Warehouse data may be stored in a database. The TLM system provides ~~an~~ transformation model. In particular, the TLM system provides a structure, such as a tree structure, with objects or data on nodes of the tree. A user can select a node of the tree to obtain information about the lineage of the data at that node. Lineage refers to the source of the data or the modification that resulted in the current state of the data.--

Please delete the paragraph appearing at page 6, lines 5-16, and replace it with the following new paragraph:

-- The information catalog system defines a plurality of functional categories within which the user-defined object types may be generated. Each functional category represents a categorization and/or subclassing of a super class of functional services provided by the information catalog. The functional categories to which the object types are assigned become part of the object type definition and limit the functions available to each object type. An object type is a data structure that may be thought of as a subclass object that encapsulates the functions inherited ~~form~~ from the categor~~y~~ies class to which the object type belongs, together with one or more property attributes corresponding to information that the knowledge worker wishes to catalog. The object types can be populated with object instances that are generated by assigning values to the property attributes to create meta information objects that uniquely identify units of information to be cataloged by the knowledge worker.--

Please delete the paragraph appearing at page 6, lines 22-26, and replace it with the following new paragraph:

-- All of the user-defined object types of the information catalog are placed in one of these six categories. Each category represents a distinct set of product functionality, such as "Information" objects corresponding to information ~~form~~ from one or more data storage resources to be cataloged and "Support" objects corresponding to information that supports the cataloging of information defined by the Information objects.- -

Please delete the paragraph appearing at page 12, lines 10-21, and replace it with the following new paragraph:

-- FIG. 7 illustrates the transformation models used by the TLM system 118. A user views a graphical tree structure representing data from the target, which was derived from a source, via transformations. However, the TLM system 118 internally maintains transformation models that are used to provide a user with the capability to determine the lineage of warehouse data from its original source to the final target table in the data warehouse. For example, for one transformation object 702, the transformation ~~object~~ model 704 is a database model 706. Similarly, for transformation object ~~608~~ 708, the transformation model 710 ~~if~~ is a file model 712. These objects and models contain the information that the TLM system 118 uses to provide a user with lineage information. For example, the TLM system 118 can use the transformation models to maintain information about the source of data in a target.- -

**MARKED-UP VERSION OF THE AMENDED CLAIMS, SHOWING CHANGES**
**February 11, 2002**

IN THE CLAIMS:

Please amend claims 2-6, 8-12, and 14-18, as follows:

-- 2. (Amended) The method of claim 1, wherein the target object is represented as a node in a tree structure.

-- 3. (Amended) The method of claim 1, wherein the step of providing information further comprises ~~the step of~~ providing transformation information, said transformation information comprising information about a transformation performed on said source to derive said target object.

-- 4. (Amended) The method of claim 3, wherein the step of providing transformation information further comprises ~~the step of~~ identifying a function used to transform said source ~~transformation producing function~~.

-- 5. (Amended) The method of claim 1, wherein the step of providing information further comprises ~~the step of~~ providing lineage information which identifies said source.

-- 6. (Amended) The method of claim 5, further comprising the step of maintaining transformation models for use in providing the lineage information, said transformation models maintaining information about the source of the target object.

-- 8. (Amended) The apparatus of claim 7, wherein the target object is represented as a node in a tree structure.

-- 9. (Amended) The apparatus of claim 7, wherein ~~the means for providing information~~ said one or more computer programs ~~further~~ comprises ~~the~~ means for providing transformation information, said transformation information comprising information about a transformation performed on said source to derive said target object.

-- 10. (Amended) The apparatus of claim 9, wherein the ~~means for providing~~ transformation information ~~further comprises the means for identifying~~ identifies a ~~transformation producing~~ function used to transform said source.

-- 11. (Amended) The apparatus of claim 7, wherein ~~the means for providing information~~ said one or more computer programs ~~further~~ comprises ~~the~~ means for providing lineage information which identifies said source.

-- 12. (Amended) The apparatus of claim 11, further comprising ~~the~~ means for maintaining transformation models for use in providing the lineage information, said transformation models maintaining information about the source of the target object.

-- 14. (Amended) The article of manufacture of claim 13, wherein the target object is represented as a node in a tree structure.

-- 15. (Amended) The article of manufacture of claim 13, wherein the step of providing information further comprises ~~the step of~~ providing transformation information, said transformation information comprising information about a transformation performed on said source to derive said target object.

-- 16. (Amended) The article of manufacture of claim 15, wherein the step of providing transformation information further comprises ~~the step of~~ identifying a function used to transform said source ~~transformation producing function~~.

-- 17. (Amended) The article of manufacture of claim 13, wherein the step of providing information further comprises ~~the step of~~ providing lineage information which identifies said source.

-- 18. (Amended) The article of manufacture of claim 17, wherein said method further comprises~~ing~~ the step of maintaining transformation models for use in providing the lineage information, said transformation models maintaining information about the source of the target object.- -